Incidental 18F-FDG Uptake of the Pubic Ramus and Abdominal Muscles due to Athletic Pubalgia During Acute Prostatitis

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Reference


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Keywords: PET/CT, magnetic resonance imaging, athletic pubalgia, sports hernia, prostatitis

Öz


Anahtar kelimeler: PET/BT, manyetik rezonans görüntüleme, atletik pubalji, sporcu hernisi, prostatit

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Figure 1. We present the case of a 23-year-old male African native patient presenting with fever, lumbalgia and dysuria after returning from a trip to Togo. The patient is a professional athlete (soccer player) with a known history of malaria during childhood. On palpation, there was pain over the pubic tubercle and the digital rectal exam was tender and sensitive. The blood formula was normal except elevated [C-reactive protein (CRP): 118 mg/L]. Recurrence of malaria had been excluded by repeated thick blood smears. Both blood and urinary cultures were positive for methicillin-resistant Staphylococcus aureus. Computed tomography (CT) with nephrographic contrast and dedicated ultrasound ruled out pyelonephritis. A pelvic magnetic resonance imaging (MRI) was performed to rule out arthritis and osteomyelitis that revealed a thickening of the aponeurosis of the left rectus abdominis muscle on T1-weighted axial sequence after injection of gadolinium (A, arrow head), a hyper-signal of the symphysis on the STIR-weighted sequence corresponding to marrow edema without articular effusion, and a hyper-signal corresponding to a strain of the left adductor longus muscle (B, arrow head) characteristic of athletic pubalgia (1,2). ¹⁸F-FDG positron emission tomography/CT (PET/CT) found an increased prostatic tracer uptake along with bilateral external iliac lymph nodes hyper-metabolism (C), and also showed hyper-metabolism of the insertion of the left longus adductor (D) and of the left rectus abdominis (E and G, orange arrow) with a focal uptake in the pubic symphysis (E and G, red arrow) that were in concordance with the MRI findings. Increased ¹⁸F-FDG uptake on the molecular inversion probe sequence (G) in the supraclavicular, latero-cervical and para-vertebral regions corresponded to activated brown adipose tissue (brown arrow), the yellow arrow corresponds to the left iliopsoas node; the right iliopsoas node and the prostate were masked by the bladder. The CT scan (F) with contrast media confirmed the findings (thickening of the aponeurosis of the left rectus abdominis, arrow head). A prostatic origin of the infection was presumed and antibiotic therapy was initiated (intravenous vancomycin, then co-trimoxazole per os). Regression of fever, normalization of CRP and clearing of the cultures were observed rapidly.

Sports hernia/athletic pubalgia is an activity-related lower abdominal and proximal adductor-related pain seen in athletes (3,4,5,6). Symptoms are most often unilateral but are not uncommonly bilateral. This pattern with hyper-metabolism of the insertion of the muscles associated with uptake in the pubic symphysis due to inflammation should be recognized on imaging not to be mistaken for a muscle abscess (7,8). To the best of our knowledge, this specific feature in ¹⁸F-FDG PET/CT had not been previously described in the literature.

Ethics

Informed Consent: Consent form was filled out by all participants.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions


Conflict of Interest: No conflict of interest was declared by the authors.

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References